



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY**

**REGION 4**

**ATLANTA FEDERAL CENTER**

**61 FORSYTH STREET**

**ATLANTA, GEORGIA 30303-8960**

**MAR 18 2002**

Colonel James W. DeLony  
District Engineer  
ATTN: Ms. Elizabeth Porter  
Wilmington District, Corps of Engineers  
P.O. Box 1890  
Wilmington, North Carolina 28402-1890

**RECEIVED**

**MAR 18 2002**

**REGULATOR:  
WILMINGTON FIELD OFFICE**

**SUBJ: Section 401 Water Quality Certification**  
**Nationwide Permits Reissued on January 15, 2002**

Dear Colonel DeLony:

On behalf of the Eastern Band of Cherokee Indians, pursuant to Section 401 of the Federal Pollution Control Act (33 U.S.C. 1251, 1341), the United States Environmental Protection Agency (EPA) issues this letter recommending general and specific regional conditions for the Nationwide Permits (NWP) reissued on January 15, 2002. The EPA has determined that no water quality standards are applicable to the lands of the Eastern Band of Cherokee Indians, and pursuant to 40 CFR 121.24, certification is not required. However, in accordance with 40 CFR 121.24, EPA recommends the conditions enclosed for each NWP, in order to achieve compliance with the purpose of the Clean Water Act.

Based on the information provided in the public notice and pursuant to Section 404 of the Clean Water Act, EPA has concluded that if the NWPs incorporate the conditions listed in the enclosed pages for activities on the Cherokee Indian Reservation, no significant adverse impacts to water quality are expected to result from activities authorized under the reissued NWPs. As expressed in our NWP comment letter to you (September 24, 2001) EPA has particular concerns regarding two of the NWPs, specifically NWP 14 and NWP 43. Additionally, we are recommending that NWP 39 be used in-lieu of NWP 29, for single family dwellings, since it is our understanding this is the position used by Wilmington District.

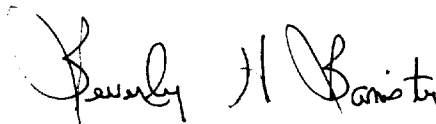
Because the 200 linear feet prohibition was removed from NWP 14, EPA Region 4 recommended the Wilmington District Regional Conditions include a linear footage restriction for NWP 14, as well as the acreage restriction (specified in NWP 14). EPA is pleased to see the Wilmington District has included a 300 linear foot prohibition for all NWPs in perennial and intermittent streams (with important aquatic functions). Since the Cherokee conditions must be submitted before the Wilmington District Regional Conditions are approved by the Division Engineer, we are also including this requirement in the recommended conditions for the Cherokee Reservation.

As stated in our letter of September 24, 2001, EPA Region 4 recommended denial of NWP 43 by the Wilmington District. Although Section 404 may allow the conversion of waters of the U.S. to a waste treatment system upon demonstration of compliance with Section 404(b)(1) guidelines (as such removing its designated use), Region 4 is generally opposed to such activities because of the protection that has been given to waters of the U.S. by Congress and the courts. It is generally recommended that all wastewater and storm water treatment facilities be placed in upland areas. Region 4 understands that, on a case-by-case basis, certain circumstances may warrant consideration of an instream treatment system. However, if a control structure is placed in waters of the U.S., then the entire impounded area is no longer waters of the U.S. (it is converted to a treatment system), and should be adequately compensated through mitigation.

We do not believe that the use of streams for water treatment is a minor impact to the aquatic environment, and for this reason believe it is inappropriate for a NWP to be used to authorize such activities. We are pleased to see the Wilmington District Regional Conditions for NWP 43 state that "discharges into wetlands and perennial streams are prohibited under this NWP". EPA is also including this as a Cherokee condition for NWP 43, since we are submitting these conditions before final approval by the Wilmington District Division Engineer. We are also recommending the additional enclosed NWP 43 conditions for the Cherokee Reservation.

Staff of the Eastern Band of Cherokee Indians have been provided an opportunity to review these conditions. EPA submits the enclosed conditions for the Cherokee Reservation for incorporation into the Wilmington District Regional Conditions for the reissued NWPs. If you have any questions or would like to further these conditions, please contact Becky Fox of my staff at 828-497-3531

Sincerely,

A handwritten signature in black ink, appearing to read "Beverly H. Banister".

Beverly H. Banister  
Director  
Water Management Division

Enclosure (1)

cc: Eastern Band of Cherokee Indians  
NCDWQ/DENR, Raleigh

## **CONDITIONS APPLICABLE TO ALL NATIONWIDE AND REGIONAL GENERAL PERMITS**

The following conditions will become effective on March 18, 2002 and will replace the conditions issued on May 4, 2000. These conditions are rescinded when the U.S. Army Corps of Engineers (Corps) reauthorizes the Nationwide Permits or when deemed appropriate by the U.S. Environmental Protection Agency

1. Proposed fill or modifications of any amount of wetlands, streams or other waters of U.S. on lands of the Eastern Band of Cherokee Indians, under a Nationwide (NWP) or Regional General Permit (GP), requires prior written notification to the Eastern Band of Cherokee Indians. The written notification shall be provided to the following address at least 15 days prior to commencement of activities:  
  
Eastern Band of Cherokee Indians  
Environmental Planning Office  
Tribal Utilities Building  
P.O. Box 455  
Cherokee, North Carolina 28719
2. NWPs may not be used for activities that may result in the loss or degradation or greater than 300 total linear feet of perennial or intermittent streams.
3. For any project involving a stream re-alignment, a stream relocation plan must be included with the application. Relocated stream designs shall include the same dimensions, patterns, and profiles as the existing channel, to the extent practical (Rosgen 1994, Rosgen 1996). The new channel shall be constructed in the dry and water shall not be turned into the new channel until the banks are stabilized. Vegetation used for bank stabilization shall be limited to native species, and should include establishment of a minimum 30-foot wide wooded buffer on both sides of the relocated channel, to the extent practical (NCDENR 2000, Castelle et al 1994, Wenger 1999).
4. Appropriate sediment and erosion control practices shall be employed which equal or exceed those outlined in the most recent version of the Cherokee Soil Erosion and Sedimentation Ordinance, the North Carolina Sediment and Erosion Control Planning and Design Manual or the North Carolina Surface Mining Manual, whichever is more appropriate. These practices shall be designed, installed and maintained properly to assure compliance with the appropriate turbidity water quality standard downstream of the Indian Lands (50 NTUs in streams and rivers not designated as trout waters by North Carolina Department of Environment and Natural Resources, Division of Water Quality (DWQ), 25 NTUs in all lakes and reservoirs and 10 NTUs in trout waters).
5. All sediment and erosion control measures placed in wetlands or waters of the U.S. shall be removed and the natural grade restored within two months after completion of the project.

6. Pipes which are installed in a stream under a road or other fill must be designed to carry at least the 25-year, 24-hour storm event, as outlined in the most recent edition of the North Carolina Sediment and Erosion Control Planning and Design Manual or North Carolina Surface Mining Manual.
7. Placement of culverts and other structures in waters, streams, and wetlands must allow low-flow passage of aquatic life unless it can be shown to the Corps that providing passage would be impractical. This will generally require burying culverts a minimum of one foot below the bed of the stream for culverts greater than 48 inches in diameter. For culverts 48 inches in diameter or smaller, they must be buried below the stream bed to a depth of greater than or equal to 20 percent of the diameter of the culvert. Bottomless arch culverts will also satisfy this condition. Bankfull flows (or less) will be accommodated through maintaining the existing bankfull channel cross sectional area. Additional culverts will be allowed only to receive flows exceeding bankfull. (Rosgen 1994 and 1996).
8. Design and placement of culverts and other structures including temporary erosion control measures shall not be conducted in a manner that may result in dis-equilibrium in wetlands or stream beds or banks, adjacent to or upstream or downstream of the structures. If requested by the Corps, the applicant is required to provide evidence that equilibrium shall be maintained. Additionally, floodway passages must be placed under road ways that cross flood plains or wetlands in order to prevent excessive constriction of the floodway, which may result in dis-equilibrium of streams or wetlands (Maryland State Highway Administration 1999) (See figure in Wilmington District regional conditions for NWP 14 illustrating floodplain culverts.)
9. Storm water management measures and structures shall be implemented for any project site in order to prevent degradation of downstream water quality or uses, including protection of downstream stream bed and bank stability. Such storm water management measures shall not be constructed in wetlands or waters of the U.S. (Title 40 CFR 122.2, 40 CFR 122.26, CWA Sections 301 and 402)
10. Measures shall be taken to prevent live or fresh concrete from coming into contact with waters of the U.S. until the concrete has hardened.
11. Access roads constructed for any of these permits shall be constructed so as to minimize wetland fill as much as practicable, and shall be restored to grade immediately after the project is completed. The site shall be revegetated with native species within 30 working days or 45 calendar days after grade restoration.
12. Annual species suitable for wet locations shall be planted within jurisdictional wetlands for soil and erosion control. Perennials, such as fescue, are prohibited.
13. No fertilizer shall be applied within 10 feet (3 meters) of streams.

14. Herbicides can be applied in wetlands or other waters only when applied by a certified applicator, in strict accordance with product labeling. (40 CFR Part 156)
15. This permit does not relieve the applicant of the responsibility to comply with the requirements of the Tribal flood ordinance or any other applicable laws, regulations, or ordinances governing the Tribal lands.

The above general conditions apply to the use of any NWP or GP on lands of the Eastern Band of Cherokee Indians. The following NWPs have specific conditions which must be complied with in addition to the general conditions:

12. Utility Line Activities
13. Bank Stabilization
14. Linear Transportation Projects
27. Stream and Wetland Restoration Activities
29. Single-Family Housing
37. Emergency Watershed Protection and Rehabilitation
43. Stormwater Management Facilities

**NATIONWIDE PERMIT NUMBER 12  
(UTILITY LINE BACKFILL AND BEDDING)**

1. Construction corridors parallel to streams shall be placed at the furthest distance from the stream to the maximum extent practicable. In no case shall the edge of the construction corridor be installed parallel to and closer than 10 feet (3 meters) to a stream.
2. The crossing of a utility line over a stream channel should be as close to perpendicular as possible and the utility line shall not cross a stream channel at less than a 75-degree or more than 105-degree angle.
3. Any wastewater line that crosses any stream shown on the most recent version of the 1:24,000 USGS topographic map as permanent or intermittent shall be installed with no-seam piping. If no-seam piping is not able to be installed, written concurrence from the Corps is required.
4. Placement of rip-rap is restricted to the stream bottom and banks directly impacted by the placement of the utility line. Rip-rap may only be used below the normal high water level. The stream berm must be restored to the original contour after construction.
5. The construction corridor (including access roads and stockpiling of materials) is limited to 40 feet (12.2 meters) in width in wetlands and across stream channels, and must be minimized to the maximum extent practicable.

6. Permanent, maintained access corridors shall be restricted to the minimum width practicable and shall not exceed 10 feet (3 meters) in width, except at manhole locations. Vehicle turnaround areas perpendicular to the corridor, as large as 10-feet by 10-feet (3 meters by 3 meters), are allowed, and they shall be spaced at least 500 feet (152.4 meters) apart.
7. For buried utility lines, an anti-seep collar shall be placed at the downstream (utility line gradient) wetland boundary and every 150 feet (47.5 meters) up the gradient until the utility exits the wetland. Anti-seep collars may be constructed with class B concrete, compacted clay, PVC pipe, or metal collars. Wetland crossings that are directionally drilled, and perpendicular wetland crossings that are open cut and less than 150 feet (45.7 meters) long do not require anti-seep collars.
  - a) The compacted clay shall have a specific discharge of  $1 \times 10^{-5}$  cm/sec or less. A section and plan view diagram is attached for the anti-seep collars.
  - b) The following specification shall apply to class B concrete:
    1. Minimum cement content, sacks per cubic yard with rounded coarse aggregate 5.0
    2. Minimum cement content, sacks per cubic yard with angular coarse aggregate 5.5
    3. Maximum water-cement ratio gallons per sack 6.8
    4. Slump range: 2-4"
    5. Minimum strength: 28 day psi = 2,500
8. This permit does not authorize any permanent changes in preconstruction elevation contours in waters or wetlands. The permittee shall have a specific plan for restoring wetland contours. Any excess material will be removed to a high ground disposal area.

#### **NATIONWIDE PERMIT NUMBER 13 (BANK STABILIZATION)**

1. Methods of bank stabilization (such as bioengineering) that avoid or minimize the use of hard structures are preferred rather than installation of hard structures. Information about these structures follows these conditions.
2. The use of riprap is discouraged and will require approval by the Corps. For projects greater than 500 linear feet, riprap shall not be installed in the streambed unless required for velocity control and approved by the Corps. All riprap approved to be installed shall be of such a size so as not to be able to be carried off by wave or current action and consist of clean rock or masonry material free of debris or toxic pollutants. However rock vanes, wing deflectors, weirs and similar structure which direct flow from the stream bank toward the thalweg (deepest point of the stream cross section) of the channel are acceptable.

## **BIOENGINEERING METHODS (Streambank Stabilization - NWP 13)**

### **Alternatives to full use of hard structures (FISWRG 1998; Rosgen 1996)**

**Root wads** consist of the roots and 20 to 30 feet of tree trunk from hardwood trees which are installed into the eroding bank and anchored by rocks or rebar. By the time the root wads rot out, native vegetation is replaced. Tag alder, dogwood, buttonbush and willows are frequently used as plantings among the root wads. Shorter tree trunk lengths are acceptable if additional anchoring measures are used. Root wads should be placed at the bankfull stage. Rootwads can often be used successfully in areas where velocities exceed 6 fps.

**Brush layering** consists of laying willow cuttings (several feet in length) horizontally, with the branch tips toward the stream and rooting end away from the stream. Soil is piled on top of the cuttings and several more layers are installed. When installed during a dormant period (winter or fall), growth should occur the following spring. Dormant cuttings may be inserted in the banks or in spaces in between the synthetic product (if used) for bank stability. Black willow and tag alder are good species to use for bioengineering since they root easily and grow well in the eastern U.S.

**Riprap** may be used on a very limited basis when necessary to protect the outer toe of meanders. When utilized, riprap should be placed on the outside curves from the toe to bankfull height. Bankfull is considered to be the corresponding stage at the incipient point of flooding. It is often associated with an average return interval of about 1.5 years. Bankfull can sometimes be detected by one or more of the following features: 1) lack of point bars, 2) significant breaks in slope, 3) changes in vegetation, 4) height of the highest scour line, and 5 ) (more rarely) top of bank.

**Lunkers** are another stabilization device, which are elongated bench-like structures that are open on three sides allowing water to flow through them, while also providing fish habitat. They can be made of recyclable material (plastic) or of oak.

### **Vegetative plantings**

Bioengineering methods in conjunction with native plantings can be used to produce aesthetically pleasing, biologically diverse streams. The use of native vegetation is desirable since native species are non-invasive and they reduce velocity, protect banks from scour and have root systems that create bank support. Vegetation also contributes organic matter and provides shade to protect aquatic life. Shading helps reduce water temperatures and enables higher levels of dissolved oxygen to be held in water.

In addition to establishing bank vegetation for shading, plantings should be placed on the erosional side (or outside curve) of streams where velocity is greatest. Vegetative plantings dissipate erosive forces and hold sediment in place. Plants most effective for bank stabilization have deep roots, low growth forms, dense branching patterns and are resilient under pressure such

as flooding. It is desirable to have at least a 50 foot width of bank vegetation where feasible. (Castelle et. al 1994 & Wenger 1999)

When replanting of banks is required, generally there should initially be the linear equivalent of 320 trees per acre or as specified in the planting plan with a minimum 30 foot wide wooded buffer. Survival after five years shall be for a total of 260 stems per acre or its equivalent. Trees planted should be large enough (several feet in height) to ensure that they won't be scoured away during adverse weather. In deeply incised streams where the stream's downcutting has lowered the local water table, upland species should be planted.

#### **NATIONWIDE PERMIT NO. 14 (ROAD CROSSINGS)**

1. The width of the fill is limited to the minimum needed for the actual crossing.
2. The roadway width shall be minimized as much as practicable and no practicable alternative exists
3. If this authorization is used to access building sites, all lots must be buildable without additional fill in wetlands or waters of the U.S., beyond that allowed under NWP authorizations. Deed restrictions must be placed on the remaining wetlands on these lots to restrict future fill.
4. Fill for road crossing will not impede any level of flow. Dual purpose crossings (e.g. road crossing and water treatment) can not be used under this NWP. (Title 40 CFR 122.2, 40 CFR 122.26, CWA Sections 301 and 402)

#### **NATIONWIDE PERMIT NUMBER 27 (STREAM AND WETLAND RESTORATION ACTIVITIES)**

1. This NWP may be used for wetland and stream restoration activities. Stream restoration is defined as the process of converting an unstable, altered, or degraded stream corridor, including adjacent riparian zone and floodprone areas to its natural or referenced stable conditions, considering recent and future watershed conditions. The process also includes restoring the geomorphic dimension, pattern, and profile as well as biological and chemical integrity, including transport of water and sediment produced by the streams watershed in order to achieve dynamic equilibrium.
2. The use of riprap is discouraged and will need approval by the Corps. If used, all riprap shall be of such size so as not to be able to be carried off by current action and consist of clean rock or masonry material free of debris or toxic pollutants. Riprap shall not be installed in the streambed unless required for velocity control and approved by the Corps. However, rock veins, wing deflectors, weirs, and similar structures which direct flow from the bank toward the thalweg (deepest point of the stream's cross section) of the channel are acceptable.



**NATIONWIDE PERMIT 29  
(SINGLE-FAMILY HOUSING)**

1. NWP 39 should be used in-lieu of NWP 29 for single-family housing projects.

**NATIONWIDE PERMIT 37  
(EMERGENCY WATERSHED PROTECTION AND REHABILITATION)**

1. All work shall be done from the edges or bank of stream. Any work below the normal high water level in the stream or requiring equipment to operate within the stream will require Corps authorization.
2. Impacts to vegetated buffers along the stream should be minimized and any disturbed areas shall be stabilized as soon as the project is completed by the planting of riparian buffers with native riparian species.
3. Projects authorized must be under construction or under contract for construction within one year of Corps authorization.

**NATIONWIDE PERMIT 43  
(STORMWATER MANAGEMENT FACILITIES)**

1. Discharges into wetlands and in perennial streams are not allowed under this NWP.
2. A facility remains waters of the U.S., unless the permit explicitly identifies it as an excluded waste treatment system. Therefore, applicable state water quality standards must be met within the boundaries of the system, including the impoundment.
3. If a facility is explicitly identified in a permit as a treatment system, excluded from waters of the U.S., then the entire impounded area is no longer waters of the U.S. (it is converted to a treatment system), and should be adequately compensated through mitigation. (EPA 2000)

## References:

Castelle, A.J., A.W. Johnson, and C. Conolly. 1994. "Wetland and Stream Buffer Size Requirements - A Review," *Journal of Environmental Quality*, Volume 23, September-October 1994.

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Maryland State Highway Administration. 1999. Interim Manual for Hydrologic and Hydraulic Design. Chapter 13, Guidelines for the Selection and Design of Culvert Installation.

Rosgen, D.L. 1994. A Classification of Natural Rivers. *Catena* 22: 169-199.

Rosgen, D.L. 1996. Applied River Morphology. Wildland Hydrology, Pagosa Springs, Colorado.

USEPA. 2000. Guiding Principles for Constructed Treatment Wetlands: Providing for Water Quality and Wildlife Habitat. EPA 843-B-00-003.

Wenger, Seth. 1999. A Review of the Scientific Literature on Riparian Buffer Width, Extent and Vegetation. UGA Institute of Ecology (Masters' Thesis).